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CLAIMS

1. A method for the treatment of vulcanized rubber comprising the steps of:
providing a solution of sulfur in a fatty acid or ester or a salt thereof;
blending the solution with particulate vulcanized rubber; and
heating the blend for a time period and at a sufficient temperature and pressure
to substantially devulcanize the rubber.
2. A method according to claim 1, wherein an oil-base softening agent is added to
the blend prior to heating of the blend to soften the rubber during treatment.
3. A method according to claim 2, wherein the softening agent is an aromatic oil.
4. A method according to claim 1, wherein, during blending of the vulcanized
rubber with the solution, the blend is cooled.
5. A method according to claim 4, wherein the blend is cooled by water cooling a
mixing vessel in which the vulcanized rubber and the solution are being blended.
6. A method according to claim 1, wherein the blend is heated for a time period of
from about 1 hour to about 8 hours.
7. A method according to claim 6, wherein the blend is heated for a time period of
from about 4 to about 8 hours.
8. A method according to claim 1, wherein the blend is heated at a temperature of
from about 180°C to about 200°C.
9. A method according to claim 1, wherein the treatment is carried out at a pressure
of from about 18 to about 20 kg/cm².
10. A method according to claim 1, wherein the blend comprise about 100 parts
particulate rubber, 4 to 6 parts softening agent and 2 to 4 parts treatment solution.
11. A method according to claim 1, wherein the particulate rubber is rubber crumb
having a particle size of less than 6mm.
12. A method according to claim 1, wherein the particulate rubber is powdered
rubber.
13. A method according to claim 1, wherein the solution of sulfur and fatty acid or
ester or salt thereof comprises a solution of sulfur and fatty acid or ester or salt thereof in a ratio
of 1:4.